

Bachelor of Science in Environmental Studies

Vision Statement

The Environmental Studies faculty of the Natural and Behavioral Sciences Division at the University of Maine at Fort Kent believe that experience-based learning, whether in the field or in the laboratory, is essential for optimal learning and for career preparation. The faculty asserts that scientific literacy, defined as proficiency in critical thinking, logical reasoning, and communication pertaining to the sciences, is an essential ability that we must foster in our graduates so that they can respond to environmental challenges. Our liberal arts degree provides an interdisciplinary grounding in the natural sciences, social sciences, and humanities, with an emphasis on experiential learning. This broad background preparation, combined with the training in critical analysis that permeates our curriculum, prepares our Environmental Studies graduates to address local, regional, and global environmental issues.

Mission Statement

Students in the Environmental Studies Program at UMFK develop a broad knowledge of the natural and social sciences, with a focus on an aspect of environmental studies that is of personal interest. Students learn to identify environmental issues, collect and interpret data, explore creative solutions, and communicate their findings. Students work with an interdisciplinary team of faculty with expertise in biology, chemistry, forestry, the social sciences, and the humanities. Small class sizes within the Environmental Studies program foster a close working relationship between faculty and students in an informal and nurturing atmosphere.

Program Description/Goals

The Bachelor of Science in Environmental Studies degree is an interdisciplinary academic program that combines traditional classroom learning with hands-on outdoor experience. Consonant with the location of the campus in the center of the Acadian Forest Region, the program is oriented toward environmental issues affecting rural areas, small towns, and wildlands. Students develop an understanding of the general principles of ecological systems, including components, processes, interrelationships, and of the interactions that exist between natural and cultural systems within the global environment. Students complete a rigorous curriculum that emphasizes coursework in terrestrial ecology and human-environment interactions. With close advising by a faculty mentor, each student designs and executes an in-depth laboratory or field research study in the final year of their education. Students present this capstone work in a public lecture at the end of the semester. We believe that this opportunity to practice independent research is invaluable in helping our students to be well prepared for future careers or graduate study.

Career preparation is an important goal of our program. Careers for Environmental Studies graduates focus on the use, conservation, and protection of natural resources such as water, soil, forests, wildlife, and wilderness. Potential employers include resource management organizations, regulatory and enforcement agencies, municipal groups involved in community planning and public relations, nongovernmental environmental advocacy organizations, educational institutions, and private companies.

Another key goal of our program is to prepare students to be environmentally literate individuals who are committed to pursuing a sustainable natural world for the benefit of humanity and the environment. Our faculty infuse interdisciplinary liberal arts courses with exposure to environmental problems in our community. This service learning aspect of our curriculum fosters an understanding of how we impact the natural world, as well as an appreciation of our connection to nature.

All students in the Environmental Studies Program will participate in a Field Experience Program as part of their coursework. This program consists of experiential learning activities that students participate in through short field trips in the local area, as well as through multi-day expeditions to destinations across the U.S. The courses included in the Field Experience Program each have a \$ 150 fee, which helps to cover necessary costs including travel, entrance fees, and camping. It is important that students take courses during the designated year and semester to ensure that they have the background preparation needed to benefit fully from the field-based activities.

Student Learning Outcomes

Graduates of the Bachelor of Science in Environmental Studies Program at the University of Maine at Fort Kent will:

1. clearly explain the general principles of ecological systems including components, processes, and interrelationships;
2. exhibit a holistic understanding of the interactions between natural and cultural systems within the global environment;

3. develop an ability to apply academic knowledge through independent or collaborative projects;
4. demonstrate proficiency in the writing, speaking, and critical thinking skills needed to assess environmental issues and proposed solutions; and
5. develop a life-long commitment to environmental stewardship.

Program Requirements

The Environmental Studies curriculum is an interdisciplinary collaboration of departments and faculty that consists of core courses and electives. To meet the needs of students with diverse backgrounds and interests, students have the opportunity to design a portion of their program around individual interests in the natural or social science aspects of environmental studies. Specific graduation requirements are as follows:

1. Completion of a minimum of 120 acceptable semester hours of credit.
2. Either (a) a minimum cumulative grade point average of 2.0 on all university level work.
3. Completion of at least 45 semester hours of upper level credit (course numbers 300 and above) in each of which a minimum grade of "C" has been earned.
4. Completion of the General Education Requirements (see Index under "General Education Requirements").
5. Completion of the Environmental Studies required courses and the Specialized Area of Study.

Environmental Studies Requirements

In addition to the General Education Requirements, students must complete the following:

CRN	Course Name	Credits
BIO 100	General Biology (General Education)	4 credits
BIO 202	Botany	4 credits
BIO 204	Zoology	4 credits
BIO 310	Taxonomy of Vascular Plants	4 credits
BIO 352	Ecology	3 credits
BIO 356	Vertebrate Biology	3 credits
BIO 380	Limnology	4 credits
BIO 452	Field Ecology	4 credits
CHY 100	Chemistry I	4 credits
CHY 325	Environmental Chemistry	4 credits
ENV 200	Principles of Environmental Science	4 credits
ENV 300	Environmental Practicum	1 credit
ENV 322	Energy Conservation & Alternate Sources	3 credits
ENV 400	Senior Projects I	3 credits
ENV 401	Senior Projects II	1 credit
ENV 403	Environmental Philosophy (General Education)	3 credits
HUM 102	First Year Experience	3 credits
	Specialized Area of Study (Minimum)	18 credits
Total		74 credits

Required Support Courses

CRN	Course Name	Credits
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GEO 280	GIS Applications I (General Education)	4 credits
MAT 351	Statistics (General Education)	3 credits

Choose two of the following courses: 6 credits

ECO 210	Environmental Economics
POS 320	Environmental Policy
SOC 347	Environmental Sociology
HTY 382	Conservation and Environmental History

Concentrations

Each student will, by the end of the sophomore year, select a concentrated area of interest known as a “Concentration”. Upper-level transfer students should select their concentration by the end of their first semester.

The Concentrations consist of a minimum of 18 credit hours of University work in the area of the student’s specialization. Students can design their own programs, or select appropriate courses from one of the following options:

- Field Studies: Ecology of Land & Water
- Game Warden / Park Ranger
- Sustainability
- Wildlife

Field Studies: Ecology of Land & Water

The field studies concentration introduces the theory and practice of ecology, the study of interrelationships among living things and their environment. Students will study terrestrial and freshwater ecosystems, and will engage in hands on fieldwork to investigate the ecology of local forests, wetlands, rivers, and lakes.

Concentration Requirements

Select 18 or more credit hours of courses from the following:

CRN	Course Name	Credits
ENV 338	Aquatic Pollution Seminar	4 credits
GEO 380	GIS Applications II	4 credits

Choose one of the following courses:

BIO 254	Local Flora	3 credits
BIO 109	Dendrology	4 credits
BIO 311	Lichenology	4 credits

Choose two of the following courses:

ENV 354	Wildlife-Habitat Interactions	4 credits
BIO 356	Vertebrate Biology	3 credits
BIO 412	Mammalogy	3 credits
BIO 420	Ornithology	3 credits
ENV 333	Fisheries Science	3 credits

Game Warden / Park Ranger

This concentration combines coursework in both law enforcement and field biology, and emphasizes knowledge of wildlife biology and wildlife management. Students choosing this area will acquire the skills needed to pursue positions as game wardens, as well as jobs in agencies, parks, or businesses that require an understanding of wildlife issues.

Concentration Requirements

Select 18 or more credit hours of courses from the following:

CRN	Course Name	Credits
CRJ 100	Criminology	3 credits
CRJ 101	Introduction to Criminal Law	3 credits
CRJ 209	Police, Crime and Society	3 credits
CRJ 215	Principles of Investigations	3 credits
ENV 302	Wildlife Conservation and Management	4 credits
ENV 333	Fisheries Science	3 credits
ENV 334	Wildlife Science	4 credits
ENV 354	Wildlife-Habitat Interactions	4 credits
FOR/ENV 242	Map and Airphoto Interpretation	3 credits

Sustainability

The sustainability studies concentration is an interdisciplinary program addressing sustainable solutions in an effort to achieve balance between the environment, technology, organized society, population growth and social justice. This program will address global, national and local issues, providing an opportunity for hands-on experiences.

Concentration Requirements

Complete the following courses:

CRN	Course Name	Credits
SOC 321	Rural Societies	3 credits
SOC 340	Special topics: Society and Sustainability	3 credits
SOC 420	Environmental Justice and Social Movements	3 credits
SOC 340	Special Topics: Food, Society and Environment	3 credits
ENV 326	Conservation Biology	3 credits
ENV 319	Environmental Impact Assessment	6 credits

Wildlife

The wildlife biology concentration provides a broad understanding of wildlife biology and management. Students will study the biology, habitat interactions, and management of wildlife, and will engage in hands-on fieldwork to develop skills in wildlife management techniques and animal studies.

Concentration Requirements

Complete the following courses:

CRN	Course Name	Credits
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BIO 412	Mammalogy	3 credits
BIO 420	Ornithology	3 credits
ENV 302	Wildlife Conservation and Management	4 credits
ENV 333	Fisheries Science	3 credits
ENV 334	Wildlife Science	4 credits
ENV 354	Wildlife Habitat Interactions	4 credits

Techniques for Assessment

Students are assessed in all classes using various means including written assignments, quizzes and exams, field and laboratory practical exams, comprehensive final exams in some classes, and course projects. All students must complete the Environmental Practicum (ENV 300) experience with a passing grade as well as a satisfactory evaluation letter from the project supervisor. All students must demonstrate proficiency in written and oral communication skills by satisfactory performance on the written report and public oral presentation for the capstone Senior Project. All students also complete two comprehensive exams to assess knowledge of critical content in two areas: general principles of ecological systems and interactions between natural and cultural systems within the global environment. Graduating students complete an exit survey during their last semester to reflect on their BSES program education and provide feedback about their experience. Graduates are required to complete an alumni survey to provide feedback about the quality and effectiveness of their education.

Suggested Course Sequencing

Fall Semester Freshman Year

CRN	Course Name	Credits
HUM 102	First Year Experience	3 credits
ENG 100	English Composition I	3 credits
BIO 100	General Biology/Lab*	4 credits
ENV 200	Principles of Environmental Science	4 credits
	General Education – Visual & Performing Arts	3 credits
Total		17 credits

Spring Semester Freshmen Year

CRN	Course Name	Credits
ENG 101	English Composition II	3 credits
BIO 202	Botany*	4 credits
BIO 204	Zoology	4 credits
	General Education – History	3 credits
Total		14 credits

Fall Semester Sophomore Year

CRN	Course Name	Credits
CHY 100	Chemistry I/Lab	4 credits
MAT 128	College Algebra OR	

MAT 180	Finite Math I	3 credits
BIO 310	Plant Taxonomy*	4 credits
	General Education – Literature	3 credits
	General Education – Foreign Languages	3 credits
Total		17 credits

Spring Semester Sophomore Year

CRN	Course Name	Credits
BIO 352	Ecology*	3 credits
CHY 325	Environmental Chemistry	4 credits
GEO 280	GIS Applications I	4 credits
	General Education – Foreign Languages	6 credits
Total		17 credits

Fall Semester Junior Year

CRN	Course Name	Credits
BIO 452	Field Ecology	4 credits
BIO 380	Limnology*	4 credits
	General Education-Behavioral Sciences	3 credits
ENV 300	Environmental Practicum	1 credit
Total		12 credits

Spring Semester Junior Year

CRN	Course Name	Credits
BIO 356	Vertebrate Biology	3 credits
ENV 400	Senior Projects I*	3 credits
MAT 351	Statistics	3 credits
Choose two of the following:		
POS 320	Environmental Policy OR	
ECO 210	Environmental Economics OR	
SOC 347	Environmental Sociology	6 credits
Total		15 credits

Fall Semester Senior Year

CRN	Course Name	Credits
ENV 401	Senior Projects II*	1 credit
ENV 322	Energy Conservation & ALT. S. Concentration	3 credits 3-4 credits

Concentration	3-4 credits
Concentration	3-4 credits

Total **13-16 credits**

Spring Semester Senior Year

CRN	Course Name	Credits
ENV 403	Environmental Philosophy*	3 credits
	Concentration	3-4 credits
	Concentration	3-4 credits
	Concentration	3-4 credits
Total		15 credits

** Field Experience course that should be taken in the semester and year listed*